

Operation and security equipment on Criquebeuf interchange (A13)

Overview

This project addresses user security through **incident detection**, **targeted user information** and **driving conditions securing**. SAPN motorway operator has deployed the project on interchange n°20, on the intersection between A13 motorway and local networks around Rouen (France). It was finalised by end of 2016. The project combines rearrangement of exit lanes geometry, speed limit reduction, relocation of existing VMS and installation of new one, extra dynamic warning signs, traffic jam detectors and video cameras.

Objectives

General background

The interchange n°20 is the last non-toll interchange in direction to Paris. External works have been made (bypass of Pont de l'Arche) to facilitate the shunt of the d'Incarville toll barrier, increasing the traffic on this interchange. The average daily traffic on the entry ramp (Rouen to Criquebeuf) is about 10 000 vehicles/day.

During daily commutes, traffic on the exit ramp (Rouen to Pont de L'Arche) and traffic entering A13 (Pont de L'Arche to Rouen) create a perturbation nearby the roundabout at the East of the interchange. This causes an increase of the congestion between two roundabouts, which propagates on the exit ramp up to the main section of A13. This congestion on the main section of the motorway could potentially cause serious incidents.

Following the opening of the Pont de l'Arche bypass at the beginning of 2010, one noticed an increase of the saturation during peak hours of the exit traffic on the Criquebeuf interchange, coming from Rouen.



Figure 1: Dangerous flux crossing near Criquebeuf interchange

In order to quickly provide a solution, at the end of 2010 SAPN implemented the following systems (for the exit Rouen to Criquebeuf) as temporary measures:

- speed limit reduction from 130 to 110 km/h on the main section,
- deployment of a dynamic information sign of traffic jams
- marking of 2 traffic lanes of the exit ramp.

Project description

French Transport Ministry validated SAPN demand to extend this temporary measure:

- speed reduction to 110 km/h,
- rearrangement of the exit ramp to 2 lanes.

And to reinforce the means of traffic jam signalling:

- relocation of a VMS upstream of the interchange,
- adding PDA (dynamic display signs) and traffic jam detection radars,
- adding video cameras.

On this motorway section of less than 2 km, the following equipments have been implemented:

- 1 Variable Messages Sign full track width,
- 5 pre-programmed Dynamic warning signs,
- 2 video cameras,
- 2 traffic jam detection radars.

For each piece of equipment, a secure maintenance access has been created, together with a reinforcement of the stationary signalling sequence on the section.

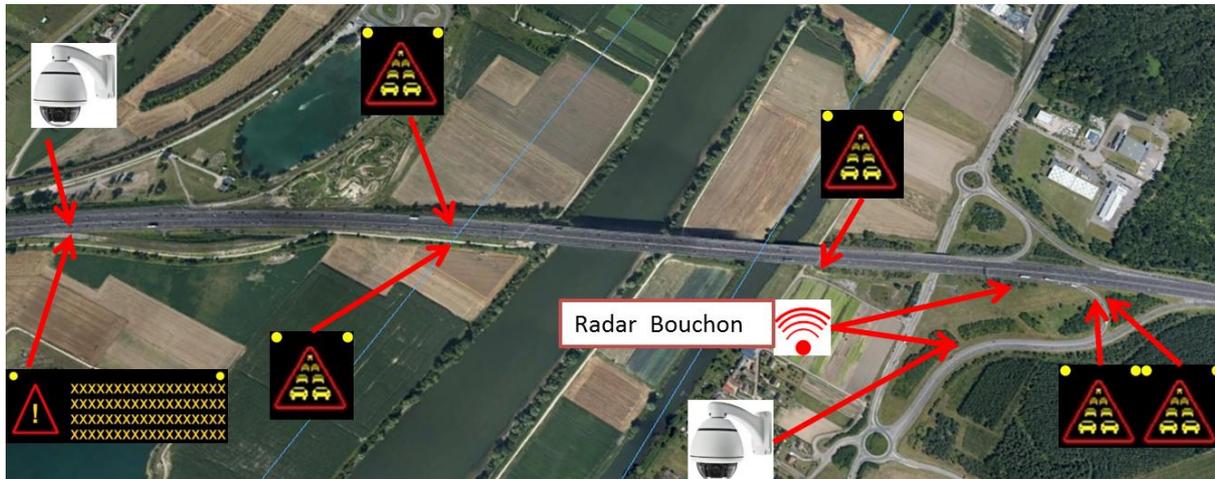


Figure 2 : New equipment deployed near Criquebeuf interchange

Member States involved:

France

Geographical Location

A13 motorway, interchange n°20 on PR 106.6, located to the South of the agglomeration of Rouen (France – Hauts-de-France Region).

Implementation schedule

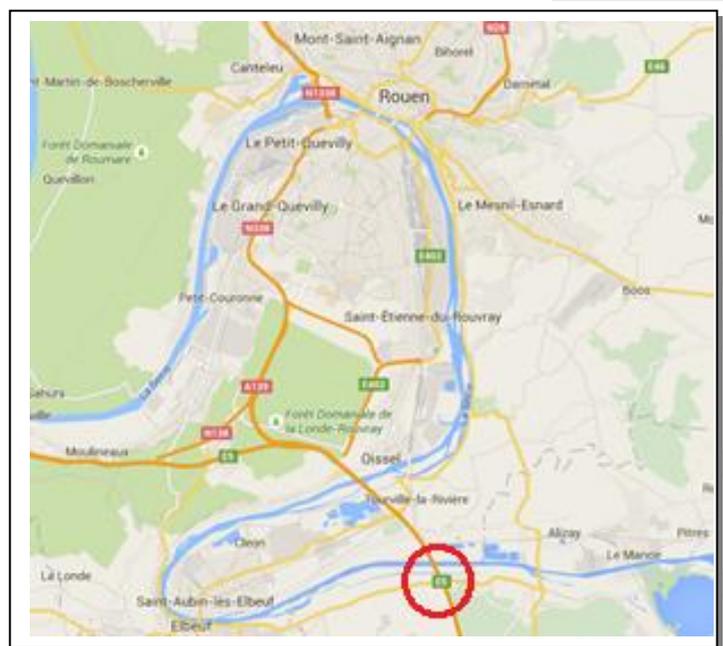
Start date: January 2015
End date: December 2016

Budget

Action promoter: SAPN, French motorway operator (member of ASFA)
Total project cost: 460 000 € (budget)
EU contribution: 92 000 € (20% EU support)

Results expected

This project mainly addresses user security on a congested and accident-vulnerable interchange. The deployment of detectors and videocameras will provide road operators with extended and enhanced incident detection capacity. It will be possible to warn users upstream and communicate incident management information via VMS, dynamic warning signs and other displays. Driving conditions are also upgraded thanks to adjusted road geometry and adapted speed limits.



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